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Preface

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Alessandro Armando and Tudor Jebelean

Abstract

AbstractThis volume contains the Proceedings of Calculemus 99, a satellite workshop of CADE 16: "Computer Aided Deduction", itself a part of FLoC 99: "Federated Logic Conference".

The workshop addressed the problem of combining the reasoning capabilities of Deduction Systems and the computational power of Computer Algebra Systems. This topic is of particular interest since both Deduction Systems and Computer Algebra Systems are receiving growing attention from industry and academia. On the one hand, Mathematical Software Systems have been commercially very successful: their use is now wide-spread in industry, education, and in scientific contexts. On the other hand, the use of formal methods in hardware and software development makes Deduction Systems indispensable not least because of the complexity and sheer size of the reasoning tasks involved. In spite of these successes there is still need for improvement as many application domains still fall outside the scope of existing Deduction Systems and Computer Algebra Systems. The emphasis of the workshop was on whether existing systems and technologies can be integrated as they stand or if a fundamental redesign is necessary.

The proceedings contain contributions from some of the most important scientific groups involved in research and applications of automatic deduction and symbolic computation. The 11 papers selected by the programme committee and the two invited talks address various aspects related to the combination of deduction systems and computer algebra systems, including case studies and results from applications.

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Alessandro Armando (**Co-Chair**)
(University of Genova & LORIA-INRIA-Lorraine)
Henk Barendregt
(University of Nijmegen)
Bruno Buchberger
(RISC-Linz)
Alan Bundy
(University of Edinburgh)
Jaques Calmet
(University of Karlsruhe)
Edmund Clarke
(Carnegie Mellon University)
Bernd Ingo Dahn
(University of Koblenz-Landau)
Fausto Giunchiglia
(IRST, Trento and University of Trento)
Hoon Hong
(University of North Carolina)
Tetsuo Ida

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(Tsukuba University)
Tudor Jebelean (**Co-Chair**)
(RISC-Linz)
Manfred Kerber
(University of Birmingham)
Michael Kohlhase
(University of Saarbrücken)
Alexander Letichevsky
(Glushkov Institute of Cybernetics, Kiev)
Ursula Martin
(St. Andrews University)
Lawrence C. Paulson
(University of Cambridge)
Joerg Siekmann
(University of Saarbrücken)
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(Stanford University)
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Alessandro Armando and Tudor Jebelean, Guest Editors